Methods of Connective Tissue Research

Frontiers of Matrix Biology, Vol. 10

Edited by L. Robert, M. Moczar and E. Moczar

S. Karger; Basel, 1985

xiv + 250 pages. $98.25, Sw.Fr. 164.00, DM 196.00

This monograph by a group of French authors is devoted to methods of purification and characterization of connective tissue polymers and it is aimed at those working in the field.

There are two chapters on collagen, The first, by Borel and Randoux, is concerned with the extraction and purification of the various collagen types, and with methods for analysing their cyanogen bromide peptides. The second, by Herbage et al., deals with the study of collagen cross-links. Then follow individual chapters on elastin (Jacob and Hornebeck), proteoglycans (Breton et al.), structural glycoproteins (Moczar and Moczar) and fibronectin (Labat-Robert). There is a final chapter by Adolphe on methods for obtaining and culturing matrix-producing cells.

All the contributions are clearly written and have comprehensive bibliographies. This is not a recipe book: in general the approach is to describe what can be achieved with a particular technique and to discuss the advantages and disadvantages of alternative methods. While there is little new information here, and all the topics have probably been dealt with in other publications, the book serves a useful function in bringing together practical appraisals of methods for dealing with all the main polymers of connective tissue. One criticism that could be made is that there is no space devoted to the advances arising from the application of molecular biology to the study of matrix macromolecules. This seems an important omission particularly with regard to collagen.

The book is relatively expensive for its length: increasingly, this type of monograph is beyond the means of the individual purchaser. Nevertheless, it should prove particularly useful as an introduction for those embarking on experimental projects that involve connective tissue biochemistry, and it will also be of value as a reference work for more experienced investigators.

J. Saklatvala

Transaminases

Edited by P. Christen and D.E. Metzler

Wiley-Interscience; New York, 1985

643 pages. £158.00

This is a monumental work, and the editors are to be congratulated on assembling a team of 73 authors, all of whom have written in a clear, readable style. It is no mean achievement to get the manuscripts from so many contributors in time for the volume to be well up to date.

The presentation of the book is neat and clear, with numerous tables of detailed data and clear il-

lustrations. The index appears to be comprehensive, as it must be. This is a reference work, not one to be read through at a single sitting! Nevertheless, the style is such that gleaning detailed information is a pleasurable experience, and abbreviations are kept to a sensible and comprehensible minimum. Each chapter has an extensive bibliography, and while it would be useful to have the titles of references as well, this would, of course, have increased the size of the book yet further. As it is, it is just possible to read it in an easy chair rather than over a desk.

The first two chapters are largely historical: Braunstein gives an overview of the field from the first discovery of transaminases to the present detailed studies of mechanism, and Snell reviews the discovery of vitamin B_6 and the model systems that have been used to investigate the mechanisms of pyridoxal-catalysed reactions. Braunstein's chapter especially is a delight to read, giving not only an elegant account of the key early studies, but also the reasoning behind his experiments. In many ways this is reminiscent of Krebs' reflective essays, and should be required reading for students who believe that biochemistry only began with isotopic labelling, X-ray diffraction and Southern blotting.

The remainder of the book covers the detailed studies on transaminases using these techniques. It is fascinating to realise how near we are to the dream of 'sitting' on the catalytic site and watching the movements of the substrate, coenzyme and reactive groups as the reaction proceeds.

As a reference work this book is invaluable, and selected chapters would provide the basis of many tutorials with advanced students. My worry is that it will be difficult to persuade librarians to buy it at 24 pence per page.

David A. Bender

The Biotechnology of Malting and Brewing

by J.S. Hough

Cambridge University Press; Cambridge, 1985

168 pages. £20.00, $39.50

This book, by the late Professor J.S. Hough who was at the time of its writing Director of the British School of Malting and Brewing, University of Birmingham, is the first volume in a proposed series 'Cambridge Studies in Biotechnology' and fills a long-standing gap in the range of texts available on brewing. It contains nine chapters beginning with an historical introduction and going on to cover the raw materials (barley, malt, hops and water), wort production and fermentation and finishing with a discussion of post-fermentation techniques and beer quality. The style is clear, simple and direct. Because of this and the use of a fairly small, but still easily legible print, there is a much higher factual content than might at first be thought in a book of 168 pages. The essential chemical, biochemical and microbiological aspects are all carefully explained and considerable information on the industrial aspects of brewing is imparted largely through detailed and well-produced diagrams. The stated aim of the author was to provide a text for "those interested in industrial biochemistry ... microbiology ... and biotechnology" rather than for workers in the field and I feel that the enterprise has been very successful. The lack of references in the text simplifies reading and for anyone interested in a more detailed or critical approach to the topic there are four well-documented books recommended for further study. The book should make excellent reading for anyone interested in the basic scientific background to brewing, but will also provide a very good starting point for the student who wishes to proceed to a greater understanding of all aspects of the brewing process.

J.C. Slaughter